

# Late Summer Heat in Iowa

By Jim Lee, NWS Des Moines

An unusually warm and prolonged late summer heat wave began across much of Iowa this past weekend and will persist through the week, especially across about the southwestern half of the state. Here are the high temperatures recorded at Des Moines so far:

High Temperature	Date
95	08/24
96	08/25
99	08/26
99	08/27
99	08/28

Certainly a prolonged heat wave of this magnitude is unusual so late in the season, but it is not unprecedented. Here is a look at some relevant records for Des Moines as well as several notable late summer heat waves from past years. At Des Moines, where records go back to 1878, the temperature has reached 100 degrees on August 26 or later only six times, most recently in 1984. Three of the six days occurred in the same year, 1939:

High Temperature	Date
104	08/26/1983
101	09/07/1939
101	09/03/1939
100	08/28/1984
100	09/06/1939
100	08/26/1881

Des Moines is also experiencing an unusually long streak of consecutive days of 95 degree or higher temperatures, with five days already recorded (as listed above) and additional days likely through the remainder of the week. The last time that at least five consecutive days of 95 degrees or greater were recorded at Des Moines this late in the year was in 1953:

Number of Days	Beginning Date
9	09/08/1927
7	08/31/1913
5	08/24/2013*
5	08/29/1953
5	09/06/1931
5	09/01/1897

\*current streak

Following are some notes on a few of the more notable late summer heat waves on record in Iowa. It should be pointed out that in many (but not all) cases, extreme heat in late August and early September has been followed by early freezes and even snow later in September, as described below. This is certainly not an assurance that an early freeze will occur next month, but given the history of similar events, it is a possibility.

In 1983, persistent late summer heat made August one of the hottest months in Iowa since the Dust Bowl of the 1930s, culminating on the 16<sup>th</sup> when Des Moines reached 108 degrees. The heat persisted well into September with Des Moines reporting highs of 96 and 97 on the 8<sup>th</sup> and 9<sup>th</sup>. Just a couple of weeks later, much cooler weather sent the temperature down to 32 degrees at Des Moines (only one day later than the earliest fall freeze on record, see 1913 below) and as low as 22 degrees at Mason City.

In 1976, a heat wave peaked on September 6-7 when temperatures reached as high as 103 degrees at Le Mars. Amazingly, a strong cold front swept across Iowa a couple of days later and on the morning of the 10<sup>th</sup> frost was reported in the lowlands with freezing temperatures at a few locations, ranging down to a low of 29 degrees at Elkader. At Sibley high temperatures of 102 degrees on the 6<sup>th</sup> and 99 degrees on the 7<sup>th</sup> were followed by a low of 33 degrees on the 10<sup>th</sup>.

In 1939, one of the hottest summers on record across Iowa persisted all the way into September, with a heat wave peaking on the 3<sup>rd</sup>-7<sup>th</sup>. Des Moines recorded three days of triple digit heat as listed above, and readings of 107 degrees at Logan on the 6<sup>th</sup> and 7<sup>th</sup> tied the Iowa September record set in 1913. An amazing cold blast then sent the temperature plummeting to 16 degrees at Sibley on the 30<sup>th</sup>, only one degree above the Iowa September record, with light snow and sleet reported at a few northern Iowa stations in the last few days of the month.

In 1913, the first week of September was very heat with temperatures in the 90s and 100s every day. On the 5<sup>th</sup> Bedford recorded a high of 107 degrees, setting the September record for Iowa that would be tied in 1939. An early statewide freeze and killing frost followed just a couple of weeks later, on the morning of September 22, when temperatures fell to as low as 19 degrees at Rock Rapids and Des Moines posted its earliest freeze on record with a low of 32 degrees.

In 1895, late summer heat brought the temperature all the way up to 103 degrees at Sioux City, Glenwood and Rock Rapids on September 17. The month would end with a cold wave that resulted in scattered frost on September 25-29 and a widespread killing frost and freeze on the 30<sup>th</sup>, when temperatures fell to as low as 22 degrees at Atlantic.

In 1881, a heat wave at the end of August sent the temperature up to 100 degrees at Des Moines on the 26<sup>th</sup> and 97 and 99 degrees on the 27<sup>th</sup> and 28<sup>th</sup>. Less than three weeks later, on September 16, the earliest fall snow on record dropped several inches across parts of western Iowa with many tree branches broken by the weight of the snow and an estimated 4-6 inches reported between Stuart and Avoca.